



Serial No. 09/714,456

REMARKS

Applicants' representative wishes to thank Examiner Carpenter for the courtesy extended during the personal interview conducted on November 1, 2001.

Upon entry of this Reply, claims 16-21 will remain in this application. Claims 1-15 have been canceled. Reconsideration of the application is respectfully requested.

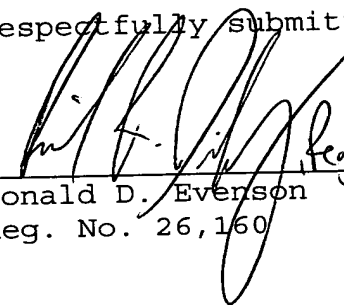
A substitute specification has been supplied as required. A marked-up version of the substitute specification, showing additions by underlining and deletions between brackets, is attached as Appendix II. The substitute specification includes no new matter.

The specification and claims have been amended in the manner discussed during the interview. The terms referred to in sections 2, 4, and 5 of the Office Action have been eliminated from the claims. It is respectfully submitted that the objections set forth in sections 2 and 4 of the Office Action and the rejections set forth in sections 5 and 7 of the Office Action have all been overcome. This application should now be allowable.

Should the Examiner have any questions after considering this Reply, the Examiner is invited to telephone the undersigned attorney.

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Respectfully submitted,

  
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MARKED-UP VERSION TO SHOW CHANGES MADE

In each claim appearing below, additions are underlined and deletions are bracketed.

16. (Amended) A passenger motor vehicle comprising:

a vehicle windshield,

[mounted on] a crossmember on which the vehicle windshield is mounted, and

a vehicle dashboard assembly disposed behind the windshield in front of a vehicle passenger space,

said dashboard assembly including[: vehicle installations] a housing part provided with fastening structure, and [an upper] a cover part [fastened to said vehicle installations, wherein the installations and the upper part are provided with interengageable] having slotted recesses therein for receiving the fastening [structures which accommodate installation of] structure when the [upper] cover part [after mounting the windshield and the installations] is installed in the vehicle,

wherein the fastening structure and the recesses are inclined toward the vehicle passenger space.

17. (Amended) [A] The passenger motor vehicle according to claim 16, wherein the [installations include] housing part is an upper part of a housing of a heating and/or air conditioning system, [which exhibits] and wherein said fastening structure includes arms which are directed toward vehicle sides and [are complemented by], together with the

[upper] cover part, [to] form at least one air channel when [in an assembled position] the cover part is installed in the vehicle.

18. (Amended) [A] The passenger motor vehicle according to claim 17, wherein the [upper] cover part is a multilayered plastic molded part which includes a substrate comprising EPP foam and a sound absorbing layer.

19. (Amended) A method of making a passenger motor vehicle comprising:

mounting a vehicle windshield in a final position on a vehicle body,

mounting [vehicle installations] a housing part provided with fastening structure adjacent the vehicle windshield at a side of a vehicle passenger space facing the windshield, and

subsequently connecting [an upper] a cover part of a vehicle dashboard to the [vehicle installations] fastening structure,

wherein the [installations and the upper] cover part [are] is provided with [interengageable fastening structures which accommodate installation of] slotted recesses therein for receiving the fastening structure when the [upper] cover part [after mounting the windshield and the installations] is installed in the vehicle, and

wherein the fastening structure and the recesses are inclined toward the vehicle passenger space.

20. (Amended) [A] The method according to claim 19, wherein the [installations include] housing part is an upper part of a housing of a heating and/or air conditioning system, [which exhibits] and wherein said fastening structure includes arms which are directed toward vehicle sides and [are complemented by], together with the [upper] cover part, [to] form at least one air channel when [in an assembled position] the cover part is installed in the vehicle.

21. (Amended) [A] The method according to claim 20, wherein the [upper] cover part is a multilayered plastic molded part which includes a substrate comprising EPP foam and a sound absorbing layer.

#10 *Sub*  
*Specification*  
*Ames*  
*11/12/01*



DASHBOARD OF A PASSENGER MOTOR VEHICLE  
AND METHOD OF MAKING SAME

BACKGROUND AND SUMMARY OF THE INVENTION

*Examiner*  
*Recommended*  
*11/12/01*

~~[0001] This application claims the priority of German Patent Application No. 199 55 221.5, filed in Germany on November 17, 1999, the disclosure of which is expressly incorporated by reference herein.~~

*Examiner*  
*11/12/01*

~~[0002] The present invention relates to a dashboard of a motor vehicle such as a passenger car. The dashboard comprises an upper part which covers installations and which is fastened at least partially to the upper part.~~ *16*

*Examiner*  
*11/12/01*

~~[0003] In prior art dashboards, upper parts can be attached to installations and front cross members only while windshields, which attach to the upper parts, have not yet been mounted. Once a windshield has been mounted, an upper part of a prior art dashboard can be disassembled only with considerable effort, if the windshield is not disassembled along with it. Therefore, any repairs to this upper part and installations covered by the upper part require considerable assembly work.~~

*Examiner*  
*11/12/01*

~~[0004] An object of the invention is to render assembly and disassembly of such an upper part easier.~~

lin 24  
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100  
[0005] This object is achieved by providing the installations and the upper part with meshing fastening means which are positioned toward the top corner relative to the interior of the motor vehicle and which can be fitted together in this direction.

lin 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200  
[0006] In this way, the upper part can be mounted relatively late during vehicle manufacture, i.e., after installation of the windshield. Thus, it is easy to make a relatively late change in design during vehicle manufacture, since different upper part shape and color variations are not made until then. Subsequent disassembly and repair are readily possible by simply replacing the entire upper part. It is easy to preassemble a functional unit and then to fix the design by means of the upper part. The design can also be changed later.

lin 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300  
[0007] The upper part of the invention is a multilayered plastic molded part, which includes a substrate comprising EPP (expanded polypropylene) foam and a sound absorbing layer. In this manner, an upper part that absorbs sound in an especially advantageous manner is created. Hence, heating and air conditioning system noises and/or noises from other components are passed on only in a very reduced form into the interior of the vehicle.

lin 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400  
[0008] Other objects, advantages and novel features of the present invention will become apparent from the following detailed description of the invention when considered in conjunction with the accompanying drawings.

### BRIEF DESCRIPTION OF THE DRAWINGS

[0009] Figure 1 is an exploded sectional view along the longitudinal center plane of a passenger car in the area of a dashboard constructed according to a preferred embodiment of the invention;

[0010] Figure 2 is a sectional view, similar to Figure 1, of another embodiment of an upper part of the dashboard; and

[0011] Figure 3 is a sectional view along the line III-III of Figure 2.


### DETAILED DESCRIPTION OF THE DRAWINGS

[0012] Figure 1 depicts a section of the front area of the vehicle interior of a passenger car. This section shows a relatively acutely tilted windshield 10 mounted on a cross member 11. The cross member 11 passes over into a face wall 12 made of sheet metal, of which only a part is shown. In the center of the vehicle there is also a column-like housing of a heating and air conditioning system, of which the upper part 13 is shown. The upper part 13 is mounted on a cross member 14 of the vehicle; this cross member connects the two A columns of the vehicle frame together.

[0013] Several air channels, which are shown only partially, branch off from the housing upper part 13. These air channels include an air channel 15, which leads to the



center nozzles 16. Above the housing upper part 13, there are arms 17, 18, which run in the cross direction of the vehicle and which are completed by means of an upper or cover part 19, forming the air channels 20, 21. The air channel 20 leads, for example, to the defroster outlets, which are set relative to the windshield 10. The air channel 21 leads to side nozzles, which are located in the side regions of the dashboard.

 [0014] The upper part 19 is a plastic molded part with a construction which will be explained in detail below with reference to Figure 3.

[0015] The upper part 19 is designed in such a manner that it can be mounted, starting from the top corner approximately parallel to the windshield 10, on the cross member 11 and the housing upper part 13, and can be fastened to the same. Thus, it is possible to attach the upper part 19 following installation of the windshield 10 and to disassemble the upper part again with the windshield 10 remaining installed. In its installed state, the upper part 19 is braced, with a recess adapted to the contour of the cross member 11, against the cross member 11. The upper part can also be fastened with screws or the like to this cross member. To fasten the screws largely invisibly, they can be provided in the area of the defroster opening (not illustrated), which leads from the air channel 20 to the windshield.

[0016] The arms 17, 18 and the air channel 15 as well as the other not visible parts of the housing upper part 13 are

provided with fastening means or structure. The fastening means engage with corresponding counter pieces of the upper part 19 in the inclined assembly direction and can then be connected to them. In the embodiment shown, the upper part 19 is provided with slotted recesses 23, 24 for the edges of the arms 17, 18. The two air channels 20, 21 are separated from one another by a leg 25; this leg descends from the upper part 19 and is braced against a projection 26 of the arms. The edges of the air channel 15 are plugged into an air channel 27, which forms a continuation of the air channel 15 and which includes an insert 28. This insert contains the elements of a center nozzle 16. In the embodiment shown in Figure 1, the insert 28 with the elements of the center nozzle has been inserted into the upper part. It is also contemplated by the invention to mold in this insert 28 during production of the upper part 19.

[0017] The air channel 15 has a peripheral leg 29, which runs parallel to an edge of the air channel and mates with a slot 30 of the upper part. A seal is formed with the peripheral leg due to elastic pressing. In addition, it is also possible during assembly to connect the upper part 19 inseparably to the bottom part or the housing upper part 13 by, for example, cementing, ultrasound welding, or vibration welding. It is possible, especially with vibration welding, not to form the slotted recesses 23, 24 or 30 until the edges of the housing upper part 13 penetrate into the upper part 19.

[0018] The upper part 19 is expediently secured at the housing upper part 13 by additional fastening elements such as screws screwed into parts of the housing upper part 13. These screws are inserted expediently starting from the bottom or from the openings for the nozzles, are screwed in so that they are covered, and are not visible without effort from the outside.

A [0019] As illustrated in Figure 2, it is also possible to provide a dish-shaped component 31, independently of the housing upper part 13, which is either connected beforehand to the upper part 19 or already molded to the upper part 19. In this case, it is possible to insulate the dish-shaped part on its underside, facing away from the upper part 19, with a special foam layer.

[0020] The construction of the upper part 19, which is produced as a plastic molding, is evident from Figure 3. The outside forms a decorative film 38, which can be grained or smooth. Under the decorative film there is a thin layer 32 of a material such as polypropylene fabric, fleece or the like. Underneath that, there is then a foam back 33 with a thickness of up to 4 mm. The foam back is followed by a barrier layer 34, which is then followed by a substrate with a thickness ranging from 6 mm to 20 mm and preferably with a thickness of 10 mm. This substrate 35 is made of an EPP foam (expanded polypropylene), which exhibits a weight ranging from 40 to 160 g/l and, in particular, from 50 to 80 g/l. This substrate 35 is followed by a so-called acoustical layer 36, which is made,

for example, of a sound absorbing EPP or a PP fleece and exhibits a thickness ranging from 3 mm to 10 mm. To obtain the sound damping properties, the material exhibits expediently a low density ranging, for example, from 25 to 40 G/L. The acoustical layer 36 is covered on its underside with a cover layer 37, which serves to reduce the surface roughness. The cover layer can be a woven material, a non-woven material or an EPP with skin formation. The thickness ranges from approximately 50  $\mu\text{m}$  to 2,000  $\mu\text{m}$ .

A [0021] The upper part 19 can be produced by: placing a skin into, for example, a surface structured tool, placing insert members into the tool and fixing them in position, blowing in a material component for the substrate 35 such as EPP foam particles, blowing in a material component for the sound absorbing layer 36, vapor coating, cooling down, ejecting, trimming and, optionally, producing a bend.

[0022] In a modified production process, the procedure is reversed and, in the last step, the upper part is laminated with a decorative film 38. Thus, the following steps result: Inserting a flat shaped textile web, introducing the acoustically effective component for the acoustical layer 36, introducing the component for the substrate 35, vapor coating, cooling down, and ejecting.

[0023] The upper part 19, produced in this way, is then laminated.

ai [0024] The foregoing disclosure has been set forth merely to illustrate the invention and is not intended to be limiting. Since modifications of the disclosed embodiments incorporating the spirit and substance of the invention may occur to persons skilled in the art, the invention should be construed to include everything within the scope of the appended claims and equivalents thereof.

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